

General

Title

Immunizations: percentage of patients who by age 13 years were up-to-date with the following recommended adolescent immunizations: one human papillomavirus vaccine (HPV) (for females), one meningococcal (MCV4), one tetanus, diphtheria toxoids and acellular pertussis vaccine (Tdap), and one influenza within the last year.

Source(s)

Nordin J, Anderson R, Anderson R, Garvis M, Kephart K, Myers C, Ottis B, Rall S, Retzer K, Starr A, Institute for Clinical Systems Improvement (ICSI). Immunizations. Bloomington (MN): Institute for Clinical Systems Improvement (ICSI); 2012 Mar. 81 p. [84 references]

Measure Domain

Primary Measure Domain

Clinical Quality Measures: Process

Secondary Measure Domain

Does not apply to this measure

Brief Abstract

Description

This measure is used to assess the percentage of patients who by age 13 years were up-to-date with the following recommended adolescent immunizations: one human papillomavirus vaccine (HPV) (for females), one meningococcal (MCV4), one tetanus, diphtheria toxoids and acellular pertussis vaccine (Tdap), and one influenza within the last year.

Rationale

The priority aim addressed by this measure is to increase the percentage of patients who are up-to-date with recommended immunizations.

Vaccines are one of the great public health achievements of the 20th century. Before vaccines became

widely used, infectious diseases killed thousands of children and adults each year in the United States.

For most Americans today, vaccines are a routine part of health care, yet pockets of vaccine-preventable diseases occur. This is partly related to a growing number of parents who are concerned that vaccines may be the cause of conditions such as autism or question whether vaccines are still necessary. These concerns have caused some parents to delay vaccines or withhold them altogether from their children.

Vaccine recommendations are determined after extensive studies in large clinical trials. They include studies on how vaccine recipients respond to multiple vaccines given simultaneously. The overall aim is to provide early protection for infants and children against vaccine-preventable diseases that could endanger their health and life. No scientific evidence exists to support that delaying vaccinations or separating them into individual antigens is beneficial for children. Rather, this practice prolongs susceptibility to disease, which could result in a greater likelihood of the child becoming sick with a serious or life-threatening disease. There could also be added expense (e.g., multiple office visits), additional time off from work for parents, and increased likelihood that the child will fail to get all necessary vaccinations.

To combat these threats, health care providers need to continue to encourage patients and parents to receive all recommended immunizations and to follow the scientifically based immunization schedules.

Evidence for Rationale

Centers for Disease Control and Prevention. Epidemiology and prevention of vaccine-preventable diseases. [internet]. Atlanta (GA): Centers for Disease Control and Prevention; [accessed 2011 Apr 01].

Nordin J, Anderson R, Anderson R, Garvis M, Kephart K, Myers C, Ottis B, Rall S, Retzer K, Starr A, Institute for Clinical Systems Improvement (ICSI). Immunizations. Bloomington (MN): Institute for Clinical Systems Improvement (ICSI); 2012 Mar. 81 p. [84 references]

Primary Health Components

Immunizations; human papillomavirus vaccine (HPV); meningococcal (MCV4); tetanus, diphtheria toxoids and acellular pertussis vaccine (Tdap); influenza; adolescents

Denominator Description

Number of patients who reach their 13th birthday during the specified measurement period (see the related "Denominator Inclusions/Exclusions" field)

Numerator Description

Number of patients who are up-to-date with the following immunizations:

- One HPV – human papillomavirus vaccine (for females)
- One MCV4 – meningococcal
- One Tdap – tetanus, diphtheria toxoids and acellular pertussis vaccine
- One influenza within the last year

Evidence Supporting the Measure

Type of Evidence Supporting the Criterion of Quality for the Measure

A clinical practice guideline or other peer-reviewed synthesis of the clinical research evidence

Additional Information Supporting Need for the Measure

- In the past decade, the U.S. has seen an increase in the number of cases of pertussis and measles. In 2002, 9,771 cases of pertussis were reported. In 2010, more than 27,000 cases were reported with 36 deaths. In California, 10 infants aged two months and younger died from pertussis.
- Pertussis appears to be endemic in middle and high schools. Although mortality is very low in patients ages 11 to 65 years, pertussis causes substantial morbidity in this age as well as transmission to incompletely immunized infants.
- Human papillomavirus (HPV) currently affects about 20 million Americans and has been associated with cervical, vaginal, vulvar, penile and anal cancers in addition to cancers of the head and neck. Of the cancers associated with HPV, cervical cancer is the most common cancer in women, and head and neck are the most common cancers occurring in men.
- HPV is the cause of invasive cervical cancer. The World Health Organization (WHO) recognizes cervical cancer as the first cancer 100% attributable to infection, with the prevalence of HPV DNA in cervical cancer biopsies from 22 countries at 99.7%. Receiving the HPV vaccine does not change the current recommendations for cervical cancer screening (Pap tests).

Evidence for Additional Information Supporting Need for the Measure

Centers for Disease Control and Prevention. Epidemiology and prevention of vaccine-preventable diseases. [internet]. Atlanta (GA): Centers for Disease Control and Prevention; [accessed 2011 Apr 01].

Hoppel AM. HPV vaccine: a coed approach. 2011.

Murphy TV, Slade BA, Broder KR, Kretsinger K, Tiwari T, Joyce MP, Iskander JK, Brown K, Moran JS, Advisory Committee on Immunization Practices (ACIP) Centers for Disease Control and Prevention. Prevention of pertussis, tetanus, and diphtheria among pregnant and postpartum women and their infants. Recommendations of the Advisory Committee on Immunization Practices (ACIP). MMWR Recomm Rep. 2008 May 30;57(RR-4):1-51. [437 references] [PubMed](#)

Strebel P, Nordin J, Edwards K, Hunt J, Besser J, Burns S, Amundson G, Baughman A, Wattigney W. Population-based incidence of pertussis among adolescents and adults, Minnesota, 1995-1996. J Infect Dis. 2001 May 1;183(9):1353-9. [PubMed](#)

Extent of Measure Testing

Unspecified

State of Use of the Measure

State of Use

Current routine use

Current Use

not defined yet

Application of the Measure in its Current Use

Measurement Setting

Ambulatory/Office-based Care

Professionals Involved in Delivery of Health Services

not defined yet

Least Aggregated Level of Services Delivery Addressed

Clinical Practice or Public Health Sites

Statement of Acceptable Minimum Sample Size

Specified

Target Population Age

Age less than or equal to 13 years

Target Population Gender

Either male or female

National Strategy for Quality Improvement in Health Care

National Quality Strategy Aim

Better Care

National Quality Strategy Priority

Health and Well-being of Communities

Prevention and Treatment of Leading Causes of Mortality

Institute of Medicine (IOM) National Health Care Quality Report Categories

IOM Care Need

Staying Healthy

IOM Domain

Effectiveness

Data Collection for the Measure

Case Finding Period

The time frame pertaining to data collection is annual.

Denominator Sampling Frame

Patients associated with provider

Denominator (Index) Event or Characteristic

Patient/Individual (Consumer) Characteristic

Denominator Time Window

not defined yet

Denominator Inclusions/Exclusions

Inclusions

Number of patients who reach their 13th birthday during the specified measurement period

Data Collection: Measurement period can be monthly, quarterly or annual. If using paper records, select a minimum of 30 records to review.

Exclusions

Unspecified

Exclusions/Exceptions

not defined yet

Numerator Inclusions/Exclusions

Inclusions

Number of patients who are up-to-date with the following immunizations:

- One HPV – human papillomavirus vaccine (for females)

- One MCV4 – meningococcal

- One Tdap – tetanus, diphtheria toxoids and acellular pertussis vaccine

- One influenza within the last year

Exclusions

Unspecified

Numerator Search Strategy

Fixed time period or point in time

Data Source

Paper medical record

Type of Health State

Does not apply to this measure

Instruments Used and/or Associated with the Measure

Unspecified

Computation of the Measure

Measure Specifies Disaggregation

Does not apply to this measure

Scoring

Rate/Proportion

Interpretation of Score

Desired value is a higher score

Allowance for Patient or Population Factors

not defined yet

Standard of Comparison

not defined yet

Identifying Information

Original Title

Percentage of patients who by age 13 years were up-to-date with recommended adolescent immunizations: one HPV - human papillomavirus vaccine (for females), one MCV4 - meningococcal, one Tdap - tetanus, diphtheria toxoids and acellular pertussis vaccine, and one influenza within the last year.

Measure Collection Name

Immunizations

Submitter

Institute for Clinical Systems Improvement - Nonprofit Organization

Developer

Institute for Clinical Systems Improvement - Nonprofit Organization

Funding Source(s)

The Institute for Clinical Systems Improvement's (ICSI's) work is funded by the annual dues of the member medical groups and five sponsoring health plans in Minnesota and Wisconsin.

Composition of the Group that Developed the Measure

Work Group Members: James Nordin, MD (*Work Group Leader*) (HealthPartners Medical Group) (Pediatrics); Ken Kephart, MD (Fairview Health Services) (Family Medicine/Geriatrics); Rosanne Anderson, RN (Family Practice Medical Center) (Family Practice); Sarah Rall, PharmD (Marshfield Clinic) (Pharmacy); Adele Starr, RNC, ANP (NorthPoint Health & Wellness) (Advanced Practitioner); Renner Anderson, MD (Park Nicollet Health Services) (Pediatrics); Barbara Ottis, RN (Park Nicollet Health Services) (Infection Control and Prevention Services); Mike Garvis, MD (South Lake Pediatrics) (Pediatrics); Kari Retzer, RN (Institute for Clinical Systems Improvement) (Facilitator); Cassie Myers (Institute for Clinical Systems Improvement) (Systems Improvement Coordinator)

Financial Disclosures/Other Potential Conflicts of Interest

Renner Anderson, MD, Work Group Member

Consultant, Pediatrics, Park Nicollet Health Services

National, Regional, Local Committee Affiliations: None

Guideline Related Activities: None

Research Grants: Receives grant money paid to his institution for federally funded vaccine research related to vaccine safety

Financial/Non-Financial Conflicts of Interest: None

Rosanne Anderson, RN, Work Group Member

Medical Support Supervisor, Family Practice Medical Center

National, Regional, Local Committee Affiliations: None

Guideline Related Activities: None

Research Grants: None

Financial/Non-Financial Conflicts of Interest: None

Mike Garvis, MD, Work Group Member

Director of Immunizations, Pediatrics, South Lake Pediatrics

National, Regional, Local Committee Affiliations: Serves as a non-paid board member for Allina Physician Governance Council and Abbott Northwestern Hospital Medical Executive Committee

Guideline Related Activities: None

Research Grants: None

Financial/Non-Financial Conflicts of Interest: None

Ken Kephart, MD, Work Group Member

Medical Director for Fairview Geriatric Services and Hospice, Fairview Health Services

National, Regional, Local Committee Affiliations: None

Guideline Related Activities: None

Research Grants: None

Financial/Non-Financial Conflicts of Interest: None

James Nordin, MD Work Group Leader

Pediatrician, HealthPartners Medical Group

National, Regional, Local Committee Affiliations: None

Guideline Related Activities: None

Research Grants: None

Financial/Non-Financial Conflicts of Interest: None

Barbara Ottis, RN, Work Group Member

Infection Control and Prevention Services, Immunization Specialist for Park Nicollet Health Services

National, Regional, Local Committee Affiliations: None

Guideline Related Activities: None

Research Grants: None

Financial/Non-Financial Conflicts of Interest: Previously served on a speakers bureau for GlaxoSmithKline. This relationship ended in 2011, prior to the start of this revision.

Sarah Rall, PharmD, Work Group Member

Director of Pharmacy Purchasing and Supply, Pharmacist, Marshfield Clinic

National, Regional, Local Committee Affiliations: None

Guideline Related Activities: None

Research Grants: None

Financial/Non-Financial Conflicts of Interest: None

Adele Starr, RNC, ANP, Work Group Member

Adult Nurse Practitioner, Minnesota Association of Community Health Centers

National, Regional, Local Committee Affiliations: None

Guideline Related Activities: None

Research Grants: None

Financial/Non-Financial Conflicts of Interest: None

Adaptation

This measure was not adapted from another source.

Date of Most Current Version in NQMC

2012 Mar

Measure Maintenance

Scientific documents are revised every 12 to 24 months as indicated by changes in clinical practice and literature.

Date of Next Anticipated Revision

The next scheduled revision will occur within 24 months.

Measure Status

This is the current release of the measure.

This measure updates a previous version: Institute for Clinical Systems Improvement (ICSI). Immunizations. Bloomington (MN): Institute for Clinical Systems Improvement (ICSI); 2011 Mar. 70 p.

The measure developer reaffirmed the currency of this measure in January 2016.

Measure Availability

Source available from the [Institute for Clinical Systems Improvement \(ICSI\) Web site](#)

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For more information, contact ICSI at 8009 34th Avenue South, Suite 1200, Bloomington, MN 55425; Phone: 952-814-7060; Fax: 952-858-9675; Web site: www.icsi.org ; E-mail: icsi.info@icsi.org.

NQMC Status

This NQMC summary was completed by ECRI Institute on December 1, 2011.

This NQMC summary was updated by ECRI Institute on October 10, 2012.

The information was reaffirmed by the measure developer on January 13, 2016.

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Production

Source(s)

Nordin J, Anderson R, Anderson R, Garvis M, Kephart K, Myers C, Ottis B, Rall S, Retzer K, Starr A, Institute for Clinical Systems Improvement (ICSI). Immunizations. Bloomington (MN): Institute for Clinical Systems Improvement (ICSI); 2012 Mar. 81 p. [84 references]

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